

PATENT
Serial No. 10/521,852
Amendment in Reply to Office Action mailed on March 23, 2006

IN THE SPECIFICATION

Please amend the specification as follows:

Replace the paragraph spanning pages 1-2, between page 1, line 19, and page 2, line 15 of the specification with the following:

~~This object is achieved by the characteristics of claim 1.~~
According to one embodiment of the invention, a lamp bulb comprises at least a first region which is at least partly permeable to infrared light and which is at least partly impermeable to visible light, and at least a second region which is wholly or partly permeable at least to visible light. These two regions of the lamp bulb primarily serve to provide the desired light distribution for the lighting installation. Substantially the entire light emission of the lamp is realized through these regions of the lamp bulb. Further regions of the lamp bulb, which do not serve this purpose or in a secondary sense only, are, for example, the region of the pinch. In addition to visible light, the lamp also realizes a defined emission of infrared light, while only integral components of the lamp bulb take part in the filtering of the light issuing

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from the lamp bulb. As a result, the lamp is capable of performing two lighting functions, i.e. for example infrared light for long distance and visible light for short distance. When the lamp or a lighting installation comprising such a lamp is used for this purpose in conjunction with a night vision apparatus or as a component of such an apparatus, which uses at least infrared light functionally, an improvement and enhancement of the field of vision of the user is achieved, while dazzling of persons in the illuminated region is avoided to a very high degree. No essential constructional changes of the lamp bulb are necessary in spite of the added function, i.e. of a filtering function of at least a region of the lamp bulb. A night vision apparatus for a motor vehicle using at least infrared light as part of its function, denoted IR night vision apparatus for short, comprises at least a light source from which at least infrared light enters the desired region, in particularly a region in front of the vehicle and beyond the low-beam region illuminated by visible light. A night vision apparatus in addition comprises an infrared detector or a sensor device which detects the region in front of the vehicle irradiated by the infrared light. An improved monitoring of the region in

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front of the vehicle is thus made possible by means of a display device, such as a picture screen, which is arranged at eye level for the vehicle's driver.

Replace the paragraph on page 5, between lines 7-15 of the specification with the following:

A boundary 16 between the regions 6 and 9 on the outer surface 8 of the lamp bulb 4 runs substantially horizontally and in one plane with an axis 17 of the filament 5 when the headlight 1 is in the mounted position. The light issuing from the second region 9 is incident substantially directly on an upper reflector sector 18 of the reflector, which is optimized in a known manner for the low-beam function. A reflector sector 19 facing the thin-film filter ~~17~~ filter 7 reflects the infrared light in a defined manner, i.e. in particular such that a high-beam or long-distance range is irradiated, and the infrared light illuminates that region of the traffic space in front of the vehicle which is not illuminated by the visible low beam and which extends over a horizontal angular range of approximately +/- 10°.

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Replace the paragraph on page 6, between lines 4-18 of the specification with the following:

Fig. 4 diagrammatically shows a vehicle headlight 41 for low beam with a dual-filament halogen lamp 42 and a reflector 43. The lamp 42 has a lamp bulb 44 and a lamp base 45. Two incandescent filaments 46 and 47 and a shield 48 of molybdenum below said first, frontmost incandescent filament 46 are positioned inside the lamp bulb 44. The molybdenum shield 48 is impermeable to visible light. A first, central region 49 of the bulb 44 is at least partly permeable to infrared light and at least partly impermeable to visible light. To achieve this, a filter coating 50 is provided on the bulb 44 so as to envelop the bulb 44 in a tubular manner. Undesirably, this region is also permeable to red light in the visible wavelength range. A second, frontmost region 51 of the bulb 44 is free from any coating and permeable to infrared and visible light. A third, rearmost region 52 is designed so as to be permeable to green and blue light. For this purpose, a filter coating 53 is provided on the bulb 44, enveloping the bulb 44 in a tubular manner. This filter coating 53 is bounded by the filter coating 50 and adjoins the lamp base 45. The frontmost region 51

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surrounds the first, front incandescent filament ~~56~~ filament 46, while the central and rearmost regions 49 and 52 surround the second, rear incandescent filament 47.

Replace the paragraph on page 6, between lines 19-34 of the specification with the following:

In the low-beam operational state, the two incandescent filaments 46 and 47 are electrically conducting, i.e. switched on, and radiate light both in the visible and in the infrared wavelength range. In this low-beam functional condition, the first, front incandescent filament 46 radiates visible light onto an upper reflector sector 54 and thus produces a low beam. The molybdenum shield 48 prevents visible light from reaching a lower reflector ~~sector 45~~ sector 55 and illuminating a long-distance region. The second, rear incandescent filament 47 generates visible and infrared light. The filter coating 50 achieves that only infrared light enters the close range as well as the long-distance range via the two reflector sectors 54 and 55. At the same time, however, undesirable visible red light of low intensity passes through the filter coating 50. The blue-green filter allows blue and green

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light of low intensity to pass. The blue, green, and red lights of low intensity are mixed into a white light. The white light can be used as a parking light of such a low intensity that dazzling of oncoming drivers is made impossible. Should the first, front incandescent filament 46 fail, no low-beam light in the visible range is generated anymore. The vehicle headlight 41 nevertheless provides a parking light, thus forming a demarcation light 41. The motor vehicle is still recognizable to oncoming drivers as a four-wheel wide motor vehicle.